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THE SALE OF BICHLORIDE TABLETS.

A DISCUSSION OF THE NEED FOR RESTRICTION OF THE SALE AND DISTRIBUTION OF BICHLORIDE OF MERCURY TABLETS.

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Some months since an alleged case of accidental poisoning by corrosive mercuric chloride, in Macon, Ga., was "featured" in practically all of the daily papers of the United States in such a way as to lead the unknowing to infer that poisoning by this substance guaranteed not alone a sure but also a painless death.

The notoriety given this case was followed by an apparently unusual number of corrosive sublimate fatalities, reported from the various parts of the United States; and the publicity given to the harrowing details in connection with several of the cases was in turn followed by agitation for legislation on the part of some of the firm believers in the power of statute law to right all wrongs and to correct or, better, to prevent all possible abuses.

Bills designed to restrict fatalities from the accidental taking of tablets containing corrosive mercuric chloride have been introduced in several of the State legislatures. In Pennsylvania, an act prohibiting the sale of bichloride of mercury at retail except upon the prescription of a registered physician was adopted by both houses of the legislature, but vetoed by the governor for the reason that "the public is amply protected regarding this drug by the restrictions put upon the sale of other poisons. Besides, I am informed that it is a household commodity." As the agitation for special legislation to restrict or at least regulate the sale of tablets of corrosive mercuric chloride is destined to be revived by the supposedly accidental poisoning of a Brooklyn business man and to continue for some time to come, it may be of advantage to review briefly the several factors involved, the abuses really existing, the propositions that have been made to correct them, the safeguards already established, and the possible ways and means of bringing about desirable changes.

While it will generally be admitted to be impracticable to prevent suicide or violent death by law or regulation, it is nevertheless well

recognized that despondent and melancholy humanity is ever ready to seize upon any suggestions that offer sure, speedy, and painless death, so that every report of death, accompanied by the details of the means and methods producing it can be counted on as an incentive for other deaths brought about in much the same way.

It is perhaps unfortunate that, for the rational study of the problem before us, no definite and satisfactory information is available as to the conditions actually existing in our own country. Our mortality statistics give only general death rates and standardized death rates, without furnishing any, even approximate, information regarding the nature of the poison used or taken in cases of reported fatalities. There is, however, available in the report of the registrar-general of births, deaths, and marriages for England and Wales, a detailed account of the nature and kind of substances used, both in suicides and in accidental deaths, and a careful study of the tables herewith presented will suffice to demonstrate the impracticability of legislating specifically for any one poison. The tables also at least suggest the fact that there is probably little or no cause for undue excitement in regard to the possible number of deaths from the internal use of corrosive mercuric chloride and that, granting that conditions in England and this country are much the same, corrosive mercuric chloride plays but a minor part in the number of deaths due to ingested poison. This fact is further emphasized when we realize the very widespread use and, incidentally at least, abuse, of tablets of corrosive mercuric chloride and the comparatively few fatalities on record resulting from its internal administration. Even a careful search of the literature since the report of the case at Macon, Ga., shows that possibly 15, certainly not over 20, deaths have been reported from the ingestion of corrosive mercuric chloride since that time. When we remember that in the registration area of the United States upward of 5,000 deaths from acute poisoning are reported annually, even these apparently large figures are suggestive as being comparable with those included in the appended tables copied from the report of the registrar-general for England and Wales.

Suicides and accidental deaths from scheduled poisons reported by the registrar-general of births, deaths, and marriages for England and Wales for the year 1911.

Poison.	Suicides.			Accidental deaths.			Total deaths.
	Male.	Fe-male.	Total.	Male.	Fe-male.	Total.	
Aconite and belladonna liniment.....		1	1		1	1	2
Antimony (?).....				1		1	1
Arsenic.....	4	1	5	1	2	3	8
Atropine.....	2		2				2
Belladonna.....		1	1	1	3	4	5
Belladonna liniment.....	1		1				1
Cantharides.....					1	1	1
Carbolic acid.....	32	57	89	6	4	10	99
Chloral hydrate.....	1		1	2		2	3
Chlorodyne.....	1	1	2	1	3	4	6
Chloroform.....	1		1		1	1	2
Cocaine and aconite.....	1		1				1
Cresolene.....		2	2				2
Hydrocyanic acid.....	22	2	24	3		3	27
Lysol.....	1	2	3				3
Mercuric chloride.....	3	2	5	2		2	7
Narcotic (kind not stated).....	1		1	4	2	6	7
Nicotine.....	7	1	8				8
Opium (laudanum and morphine).....	37	11	48	41	17	58	106
Oxalic acid.....	42	33	75	5	10	15	90
Paregoric.....					1	1	1
Potassium cyanide.....	33	3	36	5		5	41
Strychnine.....	7	6	13	1	3	4	17
Sulphonal.....				2		2	2
Vermin killer.....	1	1	2				2
Weed killer.....	1		1		1	1	2
White precipitate.....		1	1				1
Total.....	198	125	323	75	49	124	447

Suicides and accidental deaths from nonscheduled substances reported by the registrar-general of births, deaths, and marriages for England and Wales for the year 1911.

Poison.	Suicides.			Accidental deaths.			Total deaths.
	Male.	Female.	Total.	Male.	Female.	Total.	
Acetanilide.....					1	1	1
Acetic acid.....	1	1	2				2
Alcohol.....				2		2	2
Ammonia.....	1	7	8	7	7	14	22
Camphor.....	2		2				2
Camphorated oil.....				1	1	2	2
Caustic potash.....		1	1				1
Caustic soda.....	1		1	2	1	3	4
Chloride of lime.....	1		1				1
Chromic acid.....	1		1				1
Disinfectant (?).....		1	1	2		2	3
Hartshorn and oil.....				1		1	1
Hydrochloric acid.....	43	30	73	19	7	26	99
Liniment (?).....		2	2	1		1	3
Mercury (?).....	1		1	1		1	2
Methylated spirit.....					2	2	2
Nitric acid.....	1	3	4		1	1	4
Paraffin.....		1	1				1
Pennyroyal.....					1	1	1
Phosphorus.....	1		1	1	1	2	10
Potassium bichromate.....	2	2	4				4
Potassium binoxalate.....	1	2	3	1		1	4
Potassium bromide.....				1		1	1
Potassium permanganate.....		1	1	1	1	2	3
Saltpeter.....				2		2	2
Sulphate of copper.....		1	1				1
Sulphuric acid.....	4	1	5	3		3	8
Veronal.....		2	2	8	9	17	19
Whisky.....				1		1	1
Zinc chloride.....				1		1	1
Kind not stated.....	39	21	60	13	15	28	88
Total.....	99	83	182	68	47	115	297

Corrosive mercuric chloride was introduced as an antiseptic in surgical procedure more than 30 years ago, and for two decades at least was widely known by the popular names "corrosive sublimate," "bichloride," or "sublimate," and used in the form of solutions for a variety of purposes. This widespread use led to its employment in other directions, so that at the present time the statement made by the governor of Pennsylvania that bichloride of mercury "is a household commodity" is altogether too true, particularly of the tablets—pounds, if not tons, of which are sold annually for other than medicinal purposes.

A survey of the current price lists of five of the larger manufacturers of pharmaceutical preparations in the United States, presents some rather startling information, and suggests a really valid reason why tablets of corrosive mercuric chloride may be considered to be more important factors in the health and welfare of many members of the community than is generally supposed. Perhaps the most startling discovery is the fact that not a single manufacturer of tablets of corrosive mercuric chloride markets them under a name properly indicating the nature of the materials contained therein. In the lists referred to we find, under corrosive sublimate, mercuric chloride or mercury bichloride, a cross reference to antiseptic tablets or antiseptics, and under this heading the several price lists mentioned would present the following composite table:

A composite list of antiseptic tablets from the current price lists of five leading manufacturers.

Antiseptic disks.—Compressed. Green or white. Corrosive mercuric chloride 0.5 gm. with ammonium chloride.

Antiseptic tablets.—Compressed. White, blue, green, red, or pink. Corrosive mercuric chloride 0.5 gm. with ammonium chloride.

Antiseptic tablets.—White, blue, green, or red. Corrosive mercuric chloride 0.5 gm. with sodium chloride.

Antiseptic tablets, alkaline.—White or pink. Sodium borate, sodium bicarbonate, sodium salicylate, sodium benzoate, sodium chloride, oil of eucalyptus, thymol, menthol, oil of gaultheria.

Antiseptic tablets, alkaline, effervescent.—White or pink (?). These tablets are superior to those usually sold, which harden with age and dissolve with difficulty.

Antiseptic tablets, alkaline, improved.—White or pink. Formula same as alkaline antiseptic tablets with addition of hydrastine hydrochloride and sanguinarine nitrate.

Antiseptic alkaline, improved.—Valuable as an injection in urethritis, vaginitis, and all diseases of the urethral and vaginal passages requiring a mild antiseptic and deodorant.

Antiseptic tablets, Bernays, small.—White, blue, or pink. Corrosive mercuric chloride 0.125 gm. with citric acid.

Antiseptic tablets, Bernays, large.—White, blue, or red. Corrosive mercuric chloride 0.5 gm. with citric acid.

Antiseptic tablets, Bernays, special large.—White or blue. Corrosive mercuric chloride 0.45 gm. with citric acid.

Antiseptic tablets, Clover.—White, blue, or pink. Corrosive mercuric chloride 0.45 gm. with citric acid.

Antiseptic tablets, cyanide.—White or pink. Mercuric cyanide 0.5 gm. with sodium borate.

Antiseptic tablets, detergent.—Sodium bicarbonate, sodium borate, sodium salicylate, eucalyptol, menthol, and oil of wintergreen.

Antiseptic tablets, detergent, improved.—Contain in addition to the ingredients mentioned above, sanguinarine nitrate and hydrastine hydrochloride.

Antiseptic tablets, diamond.—White, blue, or pink. Corrosive mercuric chloride 0.5 or 0.125 gm. with citric acid.

Antiseptic tablets, external.—White, green, pink, or blue. Corrosive mercuric chloride 0.5 gm. with ammonium chloride.

Antiseptic tablets, La Place.—Corrosive mercuric chloride 0.25 gm. with tartaric acid.

Antiseptic tablets, mercuric bichloride, Young's.—Blue. Nine varieties.

Antiseptic tablets, mercury cyanide.—White or pink. Mercuric cyanide 0.5 gm. with sodium borate.

Antiseptic tablets No. 3.—White or pink. Mercuric cyanide 0.5 gm. with borax.

Antiseptic tablets No. 4.—Green. Corrosive mercuric chloride 0.6 gm. with ammonium chloride.

Antiseptic tablets No. 6.—Very soluble. White or blue. Corrosive mercuric chloride 0.5 gm. with citric acid.

Antiseptic tablets, potassium permanganate.—Compressed. Five varieties.

Antiseptic tablets, St. J. Perry.—White or pink. Mercuric cyanide 0.5 gm. with borax.

Antiseptic tablets, tartaric sublimate.—Corrosive mercuric chloride 0.25 gm. with tartaric acid.

Antiseptic tablets, Young's.—Blue. Corrosive mercuric chloride. Nine varieties.

Antiseptic tablets, Wilson's.—White, green, pink, or blue. Corrosive mercuric chloride 0.5 gm. with ammonium chloride.

The tablets in this list containing corrosive mercuric chloride are marketed in 16 varying sizes, 5 different shapes, and 5 different colors. Three of the shapes are distinctive and probably proprietary in nature. Obviously the most objectionable feature is the confusion which may arise from the totally misleading name applied to tablets containing highly toxic materials.

The possible abuse arising from the use of a totally misleading name for poisonous substances is further emphasized by the statement recently made by one of the agitators for legislation to provide a distinctive shape for "antiseptic tablets." This writer says: "It is a known fact that the tablets of corrosive sublimate are very easily procured, and are used to a very large extent as a home remedy, hence they are not looked upon as the dangerous agents that they really are in the hands of the careless and ignorant."

Among the many suggestions that have been made to compel uniformity in shape and size of tablets of corrosive mercuric chloride, we have proposals to have them triangular, coffin-shaped, kidney-shaped, and in the shape of a skull, in addition to the various forms already in use. Suggestions have also been made to enact laws to

compel manufacturers to color these tablets red, green, blue, yellow, and pink; also to give them a distinctive odor, and to compel their being dispensed in a uniform and distinctively shaped bottle; all of which, if it were practicable to enforce uniformity in all States and with all manufacturers, would at best tend to elaborate on the misuse of tablets of this kind, rather than to prevent accident, or their use as a poison for suicidal purposes.

Even at the present time there is sufficient legislation, if enforced, to serve as a reasonable safeguard in connection with the sale of corrosive mercuric chloride at retail. No less than 38 States include corrosive sublimate specifically in the laws designed to restrict the sale of poisons, and in but one of the existing laws, that of Utah, are corrosive sublimate tablets exempted from registration in the poison register, otherwise uniformly required for the sale of corrosive sublimate itself. During the present year, three States, Oregon, Nevada, and California, have enacted modified poison laws and specifically enumerate tablets of corrosive sublimate as belonging in "Schedule A," drugs, the sale of which is required to be registered in a book provided for that purpose. These several States also specifically enumerate "antiseptic tablets containing corrosive sublimate," being, so far, the only States recognizing the present-day custom of labeling these very toxic preparations, "antiseptic tablets."

In addition to specific agitation for the proper labeling of all preparations containing poisonous substances, the most promising innovation is the suggestion that a type form of corrosive mercuric chloride tablet or pastille be introduced in the Pharmacopœia of the United States, with a view of providing adequate safeguards to prevent accidental poisonings. While the suggestions that have been made for this purpose are many and varied, it would appear that, in view of the rapidly growing intercourse between the different countries of the world, it might be desirable to secure international uniformity in regard to preparations of this type. It has been proposed, unless specific and valid objections could be offered, to adopt for inclusion in the Pharmacopœia of the United States the description of mercuric chloride pastilles included in the German Pharmacopœia. This latter Pharmacopœia provides that pastilles of mercuric chloride consist of equal parts of corrosive mercuric chloride and sodium chloride, and requires that the pastilles be colored bright red with aniline dye, have a cylindrical shape, and be twice as long as thick. These tablets or pastilles must be wrapped individually in black paper, bearing the German equivalent of the word poison in white letters. The weight of a tablet must be stated, and the wrapped tablet is to be dispensed only in suitable glass bottles or tubes.

As an argument for including in the Pharmacopœia of the United States an official tablet of corrosive mercuric chloride, rather than enacting legislation to compel uniformity in the shape, size, color, and odor of all tablets containing corrosive mercuric chloride, it has been pointed out that inclusion in the Pharmacopœia would not in any way interfere with the legitimately established trade of manufacturers, but would tend to discourage the sale and use of such preparations and bring about the gradual popularization of the official tablet. If, in addition to this, it were practicable to induce manufacturers properly to label all of their preparations so as to indicate the presence of any highly toxic substance, and then to suggest to purchasers of tablets of this kind the need for keeping them apart or in such a way that they could not readily be mistaken for other nontoxic preparations, little or no additional legislation would be necessary, unless it were to restrict newspapers from publishing unnecessary details in regard to the nature and kind of poison used in cases of accidental or intentional poisoning.

NEOSALVARSAN IN BRAIN SYPHILIS.

A REPORT OF A CASE OF BRAIN SYPHILIS TREATED WITH NEOSALVARSAN, WITH RECOVERY.

By C. L. WILLIAMS, Assistant Surgeon, United States Public Health Service.

Within the past two years there have appeared in the medical journals a number of reports of severe and even fatal cerebral disturbances following the use of salvarsan and neosalvarsan in the treatment of syphilis. Ravant (*Presse Médicale*, Paris, Mar. 2, 1912, reviewed in *Journ. A. M. A.*, Apr. 13, 1912) cites a series of cases in which examination of the spinal fluid after salvarsan injection showed in secondary cases a more or less severe effect on the central nervous system ranging from simple increased pressure to severe inflammation. He advises examination of spinal fluid in all secondary cases and extreme caution in the use of salvarsan where evidence of disturbance is found. Oltramare (quoted in *New York Medical Journal*, vol. 95, p. 1065) advises caution in use of salvarsan in syphilis of liver, kidneys, and brain. R. Voller (*Münchener Md. Woch.*, vol. 59, No. 36) cites 5 cases of choked disk following the use of salvarsan. Lesser (*Ber. Klin. Woch.*, Mar. 25, 1912) has reported 18 cases of epileptiform attacks after salvarsan injection and Lube (*Dermatologische Zeitschrift*, vol. 20, No. 8) has reported 25 similar cases, which he further describes as presenting the clinical picture of cerebral intoxication. Schestophal (*Berl. Klinik*, May, 1913) and Assman (*Berl. Klin. Woch.*, vol. 49, No. 51) report fatal cases with acute cerebral symptoms after salvarsan injections.